



Figure 1

Bc28.2 MKGFFGIILSIIFVRAVSCTEDENRDSVVEGATSVEASLKEQIDWLAERY SADLTNKDTS 60  
Bc28.1 MKGFFGIILSIIFVRAVSCTEDEKRDSVVEGATSVEASLKEQIDWLAERY SADLTNKDTS 60  
\*\*\*\*\*:\*\*\*\*\*  
↑

Bc28.2 KWNTTEQVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120  
Bc28.1 KWNTDEKVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120  
\*\*\*\*\*:\*\*\*\*\*

Bc28.2 LYVLPNTHRELSSLKNKIDEWKKVKASDNGTNVIKNIKDDRTNTWFWAHGFKVAELNDVT 180  
Bc28.1 LYVLSITHRELSSLKNKIDEWKKVKASEDTKVIQNIKDDRTNTWFWAHGFKVAELNDVT 180  
\*\*\*\*. \*\*\*\*\*:\*\*\*:\*\*\*\*\*

Bc28.2 LEKLATVVKKLVSHKDMKYINKVMKKYFDRQKKE-AERLTCKAEKGMSGGKYKVKGY--A 237  
Bc28.1 LEKLATVVNELVSHKDMIYINDAMKQNVDKWTKEESERLAMMAEQGISGAKGKKD**GFSFA** 240  
\*\*\*\*\*:\*\*\*\*\* \*\*\*\*.\*\*\*: .\*: .\*\* :\*\*\*: \*\*:\*. \* \* .\*: \*  
↑

Bc28.2 APSTWML----- 244  
Bc28.1 GLSVISLLVA AVVV 256  
. \* . \*

Figure 2

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A8      MKGFFGIILSIIFVRAVSCTEDEKRDSVVEGATSVEASLKEQIDWLAERY SADLTNKDTS 60
BcB     MKGFFGIILSIIFVRAVSCTEDEKRDSVVEGATSVEASLKEQIDWLAERY SADLTNKDTS 60
34.01   MKGFFGIILSIIFVRAVSCTEDEKRDTVVEGATSVEASLKEQIDWLAERY SADLTNKDTS 60
BcA     MKGFFGIILSIIFVRAVSCTEDEKRDSVVEGATSVEASLKEQIDWLAERY SADLTNKDTS 60
Robin   MKGFFGIILSIIFVRAVSCTEDEKRDSVVEGATSVEASLKEQIDWLAERY SADLTNKDTS 60
Castres MKGFFGIILSIIFVRAVSCTEDEKRDSVVEGATSVEASLKEQIDWLAERY SADLTNKDTS 60
*****;*****

A8      KWNTDEKVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
BcB     KWNTDEQVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
34.01   KWNTNEQVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
BcA     KWNTDEKVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
Robin   KWNTDEKVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
Castres KWNTDEQVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
****;*:*****

A8      LYVLSITHRELSSLKNKIDEWKKVKASEDGTKVIQNIKDDRTNTWFWAHGFKVAELNDVT 180
BcB     LYVLSITHRELSSLKNKIDEWKKVKASDNGTNVIQNIKDDRTNTWFWAHGFKVAELNDVT 180
34.01   LYVLSITHRELSSLKNKIDEWKKVKASDNGTNVIQNIKDDRTNTWFWAHGFKVAELNDVT 180
BcA     LYVLSITHRELSSLKNKIDEWKKVKASEDGTKVIQNIKDDRTNTWFWAHGFKVAELNDVT 180
Robin   LYVLSITHRELSSLKNKIDEWKKVKASEDGTKVIQNIKDDRTNTWFWAHGFKVAELNDVT 180
Castres LYVLSITHRELSSLKNKIDEWKKVKASEDGTKVIQNIKDDRTNTWFWAHGFKVAELNDVT 180
*****;*:*****

A8      LEKLATVVNELVSHKDMIYINDAMKQNVDKWTKEESERLAMMAEQGISGAKGKKDGF SFA 240
BcB     LEKLATVVNELVSHNDMIYINDAMKQNVDKWTKEESERLAMMAEQGISGAKGKKDGF SFA 240
34.01   LEKVATVVNELVSHNDMIYINDAMKQNVDKWNKE-SERLAMMAEQGISGAKGKKDGF SFA 239
BcA     LEKLATVVNELVSHKDMIYINDAMKQNVDKWTKEESERLAMMAEQGISGAKGKKDGF SFA 240
Robin   LEKLATVVNELVSHKDMIYINDAMKQNVDKWTKEESERLAMMAEQGISGAKGKKDGF SFA 240
Castres LEKLATVVNELVSHNDMIYINDAMKQNVDKWNKE-SERLAMMAEQGISGAKGKKDGF SFA 239
***:*****;*****.*

A8      GLSVISLLVAAVAVVV 256
BcB     GLSVISLLVAAVAVVL 256
34.01   GLSVISLLVAAVAVVL 255
BcA     GLSVISLLVAAVAVVV 256
Robin   GLSVISLLVAAVAVVV 256
Castres GLSVISLLVAAVAVVL 255
*****;

```

Figure 3

		<b>5'UTR</b> →			
				<b>Met</b>	
Bc28.2	<b>AGTCGATACCTCCGAGAATAGTCTTGTATTAATCCTGTCGCTATTACAAATGAAGGGTTT</b>				60
Bc28.1	<b>AGTCGATACCTCCGAGAATAGTCTTGTATTAATCCTGTCGCTATTACAAATGAAGGGTTT</b>				60
	*****				
				<b>Fspe3</b>	
Bc28.2	<b>CTTCGGAATTATTTTGTCTATTATTTTCGTTTCGTGCCGTTAGCTGCACTGAGGATGAGAA</b>				120
Bc28.1	<b>CTTCGGAATTATTTTGTCCATTATTTTTCGTTTCGTGCCGTTAGCTGCACTGAGGATGAGAA</b>				120
	*****				
		→			
Bc28.2	<b>CAGGGATAGTGTCTCGTCGAGGGCGCTACGTCCGTTGAAGCCAGCTTAAAGGAGCAGATCGA</b>				180
Bc28.1	<b>AAGGGATAGTGTCTCGTCGAGGGCGCTACGTCCGTTGAAGCCAGCTTAAAGGAGCAGATCGA</b>				180
	*****				
Bc28.2	<b>CTGGCTCGCTGAACGTTATTCCGCTGACTTGACTAACAAAGACACTTCAAAATGGAATAC</b>				240
Bc28.1	<b>CTGGCTCGCTGAACGTTATTCCGCTGACTTGACTAACAAAGACACTTCAAAATGGAATAC</b>				240
	*****				
Bc28.2	<b>CGAAGAGCAGGTGAAGGAGCTGTTAAATGAGAAGGCTGTTGGCATAGAGTCTCGCCTTCT</b>				300
Bc28.1	<b>CGACGAGAAGGTGAAGGAGCTGTTGAATGAGAAGGCTGTTGGCATAGAGTCTCGCCTTCT</b>				300
	*** ** *				
Bc28.2	<b>TGCCATTGCTAAGGAGTTCCACAAATTGAAGTCCGTTCTGTGCACCGGTGTCAACGAAAC</b>				360
Bc28.1	<b>TGCCATTGCTAAGGAATTCCACAAATTGAAGTCCGTTCTGTGCACCGGTGTCAACGAAAC</b>				360
	*****				
Bc28.2	<b>TCCCGCTCATGTCGCTAACAGGGTGTCAACCGGAGACGCCATCTCCATGCTTTACGTGCT</b>				420
Bc28.1	<b>TCCCGCTCATGTCGCTAACAGGGTGTCAACCGGAGACGCCATCTCCATGCTCTACGTGCT</b>				420
	*****				
				<b>pr 3</b> →	
Bc28.2	<b>TCCTAACACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT</b>				480
Bc28.1	<b>TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT</b>				480
	* ** *				
Bc28.2	<b>CAAGGCATCTGACAATGGCACCAATGTGATCAAAAATATCAAGGACGACAGGACTAACAC</b>				540
Bc28.1	<b>CAAGGCATCTGAAGATGGCACCAAGTGATCAAAAATATCAAGGACGACAGGACTAACAC</b>				540
	*****				
		<b>Cons3.1</b> →			
Bc28.2	<b>CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTAACCCCTTGAGAACT</b>				600
Bc28.1	<b>CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTCACCCCTTGAGAACT</b>				600
	*****				
Bc28.2	<b>TGCAACAGTGGTTAAAAAATTGGTGTCCACAAAGATATGAAATACATTAACAAAGTTAT</b>				660
Bc28.1	<b>TGCAACAGTGGTTAACGAATTGGTGTCCACAAAGATATGATTTACATTAACGACGCTAT</b>				660
	*****				
Bc28.2	<b>GAAAAAATATTTTGACAGGCAGAAAAAGGAGG--CTGAAAGATTGACCAAAAAGGCCGA</b>				717
Bc28.1	<b>GAAGCAAAACGTTGATAAATGGACCAAGGAGAGTCTGAAAGATTGGCCATGATGGCTGA</b>				720
	*** ** *				
Bc28.2	<b>GAAGGGTATGTCTGGAGGTAAGTATAAGGTGAAAGGTTATGCAGCCCCCTCTACTTGGAT</b>				777
Bc28.1	<b>ACAGGGTATATCTGGAGCCAAGGGTAAGAAGGATGATTCTCATTCGCCGGT-CTTAG-T</b>				778
	*****				

Figure 3 Cont'd.



Figure 4

	5'UTR →	Met	
A8	AGTCGATACCTCCGAGAATAGTCTTGATTAATCCTGTCGCTATTCACAATGAAGGGTTT	60	
BcB	AGTCGATACCTCCGAGAATAGTCTTATATTAATCTTGCCGCTATTCACAATGAAGGGTTT	60	
34.01	AGTCGATACCTCCGAGAATAGTCTTATATTAATCTTGCCGCTATTCACAATGAAGGGTTT	60	
Castres	AGTCGATACCTCCGAGAATAGTCTTATATTAATCTTGCCGCTATTCACAATGAAGGGTTT	60	
Robin	AGTCGATACCTCCGAGAATAGTCTTGATTAATCCTGTCGCTATTCACAATGAAGGGTTT	60	
BcA	AGTCGATACCTCCGAGAATAGTCTTGATTAATCCTGTCGCTATTCACAATGAAGGGTTT	60	
	*****		
		Fspe3	
A8	CTTCGGAATTATTTTGTCCATTATTTTGTTCGTGCCGTTAGCTGCACTGAGGATGAGAA	120	
BcB	CTTCGGAATTATTTTGTCCATTATTTTGTTCGTGCCGTTAGCTGCACTGAGGATGAGAA	120	
34.01	CTTCGGAATTATTTTGTCCATTATTTTGTTCGTGCCGTTAGCTGCACTGAGGATGAGAA	120	
Castres	CTTCGGAATTATTTTGTCCATTATTTTGTTCGTGCCGTTAGCTGCACTGAGGATGAGAA	120	
Robin	CTTCGGAATTATTTTGTCCATTATTTTGTTCGTGCCGTTAGCTGCACTGAGGATGAGAA	120	
BcA	CTTCGGAATTATTTTGTCCATTATTTTGTTCGTGCCGTTAGCTGCACTGAGGATGAGAA	120	
	*****		
A8	AAGGGATAGTGTTCGTCGAGGGCGCTACGTCCGTTGAAGCCAGCTTAAAGGAGCAGATCGA	180	
BcB	AAGGGATAGTGTTCGTCGAGGGCGCTACGTCCGTTGAAGCCAGCTTAAAGGAGCAGATCGA	180	
34.01	AAGGGATAGTGTTCGTCGAGGGCGCTACGTCCGTTGAAGCCAGCTTAAAGGAGCAGATCGA	180	
Castres	AAGGGATAGTGTTCGTCGAGGGCGCTACGTCCGTTGAAGCCAGCTTAAAGGAGCAGATCGA	180	
Robin	AAGGGATAGTGTTCGTCGAGGGCGCTACGTCCGTTGAAGCCAGCTTAAAGGAGCAGATCGA	180	
BcA	AAGGGATAGTGTTCGTCGAGGGCGCTACGTCCGTTGAAGCCAGCTTAAAGGAGCAGATCGA	180	
	*****		
A8	CTGGCTCGCTGAACGTTATTCCGCTGACTTGACTAACAAGACACTTCAAATGGAATAC	240	
BcB	CTGGCTCGCTGAACGTTATTCCGCTGACTTGACTAACAAGACACTTCAAATGGAATAC	240	
34.01	CTGGCTCGCTGAACGTTATTCCGCTGACTTGACTAACAAGACACTTCAAATGGAATAC	240	
Castres	CTGGCTCGCTGAACGTTATTCCGCTGACTTGACTAACAAGACACTTCAAATGGAATAC	240	
Robin	CTGGCTCGCTGAACGTTATTCCGCTGACTTGACTAACAAGACACTTCAAATGGAATAC	240	
BcA	CTGGCTCGCTGAACGTTATTCCGCTGACTTGACTAACAAGACACTTCAAATGGAATAC	240	
	*****		
A8	CGACGAGAAGGTGAAGGAGCTGTTGAATGAGAAGGCTGTTGGCATAGAGTCTCGCCTTCT	300	
BcB	CGACGAGCAGGTGAAGGAGCTGTTGAATGAGAAGGCTGTTGGCATAGAGTCTCGCCTTCT	300	
34.01	CAACGAGCAGGTGAAGGAGCTGTTGAATGAGAAGGCTGTTGGCATAGAGTCTCGCCTTCT	300	
Castres	CGACGAGCAGGTGAAGGAGCTGTTGAATGAGAAGGCTGTTGGCATAGAGTCTCGCCTTCT	300	
Robin	CGACGAGAAGGTGAAGGAGCTGTTGAATGAGAAGGCTGTTGGCATAGAGTCTCGCCTTCT	300	
BcA	CGACGAGAAGGTGAAGGAGCTGTTGAATGAGAAGGCTGTTGGCATAGAGTCTCGCCTTCT	300	
	* *****		
A8	TGCCATTGCTAAGGAATTCCACAAATTGAAGTCCGTTCTGTGCACCGGCGTCAACGAAAC	360	
BcB	TGCCATTGCTAAGGAATTCCACAAATTGAAGTCCGTTCTGTGCACCGGCGTCAACGAAAC	360	
34.01	TGCCATTGCTAAGGAGTTCCACAAATTGAAGTCCGTTCTGTGCACCGGCGTCAACGAAAC	360	
Castres	TGCCATTGCTAAGGAGTTCCACAAATTGAAGTCCGTTCTGTGCACCGGCGTCAACGAAAC	360	
Robin	TGCCATTGCTAAGGAATTCCACAAATTGAAGTCCGTTCTGTGCACCGGCGTCAACGAAAC	360	
BcA	TGCCATTGCTAAGGAATTCCACAAATTGAAGTCCGTTCTGTGCACCGGCGTCAACGAAAC	360	
	*****		
A8	TCCCGCTCATGTCGCTAACAGGGTGTACCCGGAGACGCCATCTCCATGCTCTACGTGCT	420	
BcB	TCCCGCTCATGTCGCTAACAGGGTGTACCCGGAGACGCCATCTCCATGCTTTACGTGCT	420	
34.01	TCCCGCTCATGTCGCTAACAGGGTGTACCCGGAGACGCCATCTCCATGCTTTACGTGCT	420	
Castres	TCCCGCTCATGTCGCTAACAGGGTGTACCCGGAGATGCCATCTCCATGCTTTACGTGCT	420	
Robin	TCCCGCTCATGTCGCTAACAGGGTGTACCCGGAGACGCCATCTCCATGCTCTACGTGCT	420	
BcA	TCCCGCTCATGTCGCTAACAGGGTGTACCCGGAGACGCCATCTCCATGCTCTACGTGCT	420	
	*****		

Figure 4 Cont'd.

A8	TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT	480
BcB	TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT	480
34.01	TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT	480
Castres	TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT	480
Robin	TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT	480
BcA	TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT	480
*****		

A8	CAAGGCATCTGAAGATGGCACCAAAGTGATCCAAAATATCAAGGACGACAGGACTAACAC	540
BcB	CAAGGCATCTGACAATGGCACCAATGTGATCCAAAATATCAAGGACGACAGGACTAACAC	540
34.01	CAAGGCATCTGACAATGGCACCAATGTGATCCAAAATATCAAGGACGACAGGACTAACAC	540
Castres	CAAGGCATCTGAAGATGGCACCAAAGTGATCCAAAATATCAAGGACGACAGGACTAACAC	540
Robin	CAAGGCATCTGAAGATGGCACCAAAGTGATCCAAAATATCAAGGACGACAGGACTAACAC	540
BcA	CAAGGCATCTGAAGATGGCACCAAAGTGATCCAAAATATCAAGGACGACAGGACTAACAC	540
*****		

**Cons3.1**

A8	CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTCACCCTTGAGAACT	600
BcB	CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTAACCCTTGAGAACT	600
34.01	CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTAACCCTTGAGAACT	600
Castres	CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTAACCCTTGAGAACT	600
Robin	CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTCACCCTTGAGAACT	600
BcA	CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTCACCCTTGAGAACT	600
*****		

A8	TGCAACAGTGGTTAACGAATTGGTGTCCACAAGATATGATTTACATTAACGACGCTAT	660
BcB	TGCAACAGTGGTTAACGAATTGGTGTCCACAATGATATGATCTACATTAACGACGCTAT	660
34.01	TGCAACAGTGGTTAACGAATTGGTGTCCACAATGATATGATCTACATTAACGACGCTAT	660
Castres	TGCAACAGTGGTTAACGAATTGGTGTCCACAATGATATGATCTACATTAACGACGCTAT	660
Robin	TGCAACAGTGGTTAACGAATTGGTGTCCACAAGATATGATTTACATTAACGACGCTAT	660
BcA	TGCAACAGTGGTTAACGAATTGGTGTCCACAAGATATGATTTACATTAACGACGCTAT	660
*****		

A8	GAAGCAAAACGTTGATAAATGGACCAAGGAGGAGTCTGAAAGATTGGCCATGATGGCTGA	720
BcB	GAAGCAAAACGTTGATAAATGGACCAAGGAGGAGTCTGAAAGATTGGCCATGATGGCTGA	720
34.01	GAAGCAAAACGTTGATAAATGGAACAAGGAG---TCTGAAAGATTGGCCATGATGGCTGA	717
Castres	GAAGCAAAACGTTGATAAATGGAACAAGGAG---TCTGAAAGATTGGCCATGATGGCTGA	717
Robin	GAAGCAAAACGTTGATAAATGGACCAAGGAGGAGTCTGAAAGATTGGCCATGATGGCTGA	720
BcA	GAAGCAAAACGTTGATAAATGGACCAAGGAGGAGTCTGAAAGATTGGCCATGATGGCTGA	720
*****		

A8	ACAGGGTATATCTGGAGCCAAGGGTAAGAAGGATGGATTCTCATTCGCCGGTCTTAGTGT	780
BcB	ACAGGGTATATCTGGAGCAAAGGGTAAGAAGGATGGATTCTCATTCGCCGGTCTTAGTGT	780
34.01	ACAGGGTATATCTGGAGCAAAGGGTAAGAAGGATGGATTCTCATTCGCCGGTCTTAGTGT	777
Castres	ACAGGGTATATCTGGAGCAAAGGGTAAGAAGGATGGATTCTCATTCGCCGGTCTTAGTGT	777
Robin	ACAGGGTATATCTGGAGCCAAGGGTAAGAAGGATGGATTCTCATTCGCCGGTCTTAGTGT	780
BcA	ACAGGGTATATCTGGAGCCAAGGGTAAGAAGGATGGATTCTCATTCGCCGGTCTTAGTGT	780
*****		

**Rspe4**

**Stop**

**Rspe3C**

A8	CATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGGTCTAAGAGGTTAAGGATGACTATTT	840
BcB	CATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGCTCTAAGAGGTTAAGGATGACTATTT	840
34.01	CATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGCTCTAAGAGGTTAAGGATGACTATTT	837
Castres	CATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGCTCTAAGAGGTTAAGGATGACTATTT	837
Robin	CATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGGTCTAAGAGGTTAAGGATGACTATTT	840
BcA	CATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGGTCTAAGAGGTTAAGAATGACTATTT	840
*****		

**Figure 4 Cont'd.**

	<b>Rspe3C</b>	
A8	GTGGGCGTAATG	852
BcB	GTGGGCGTAATG	852
34.01	GTGGGCGTAATG	849
Castres	GTGGGCGTAATG	849
Robin	GTGGGCGTAATG	852
BcA	GTGGGCGTAATG	852
	*****	

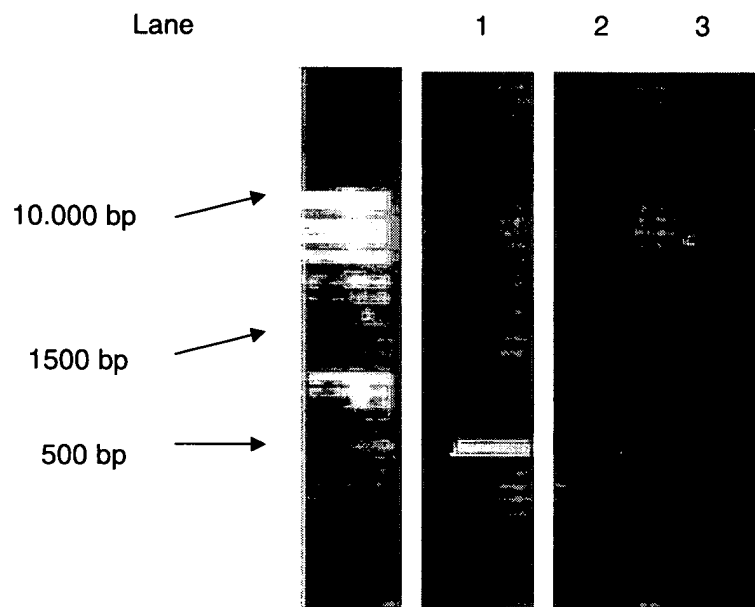
**Figure 5**



Figure 6

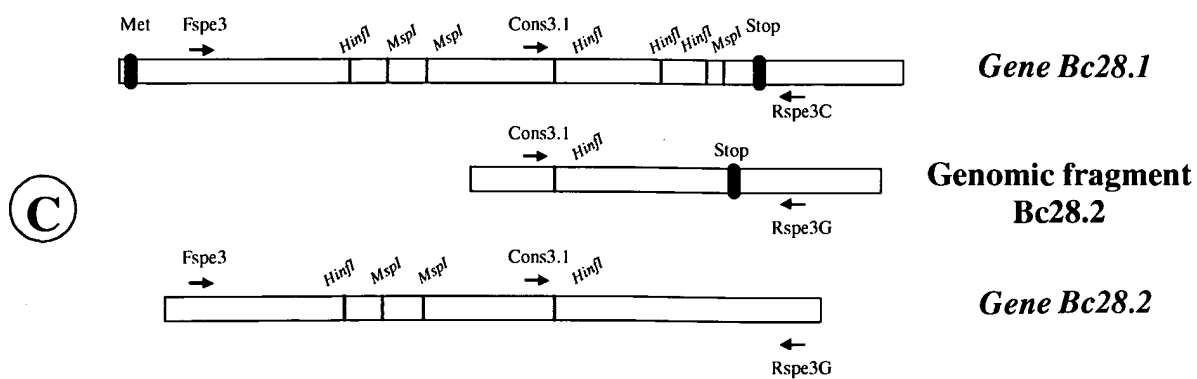
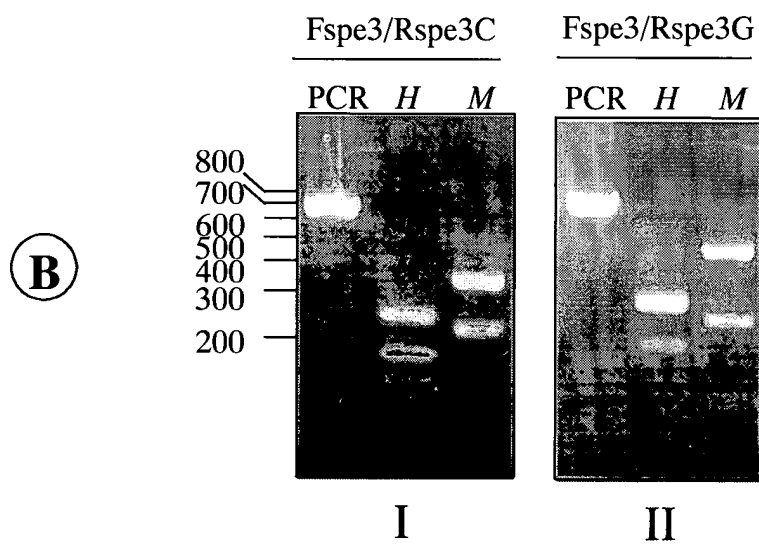
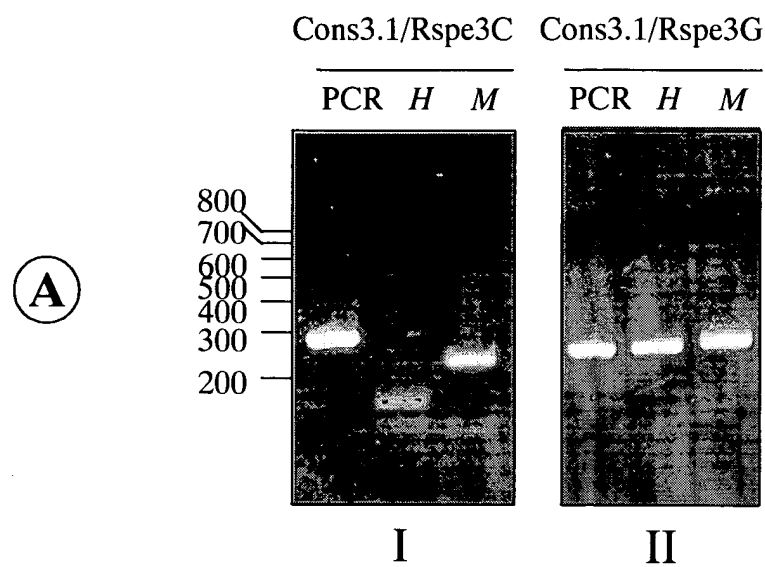


Figure 7

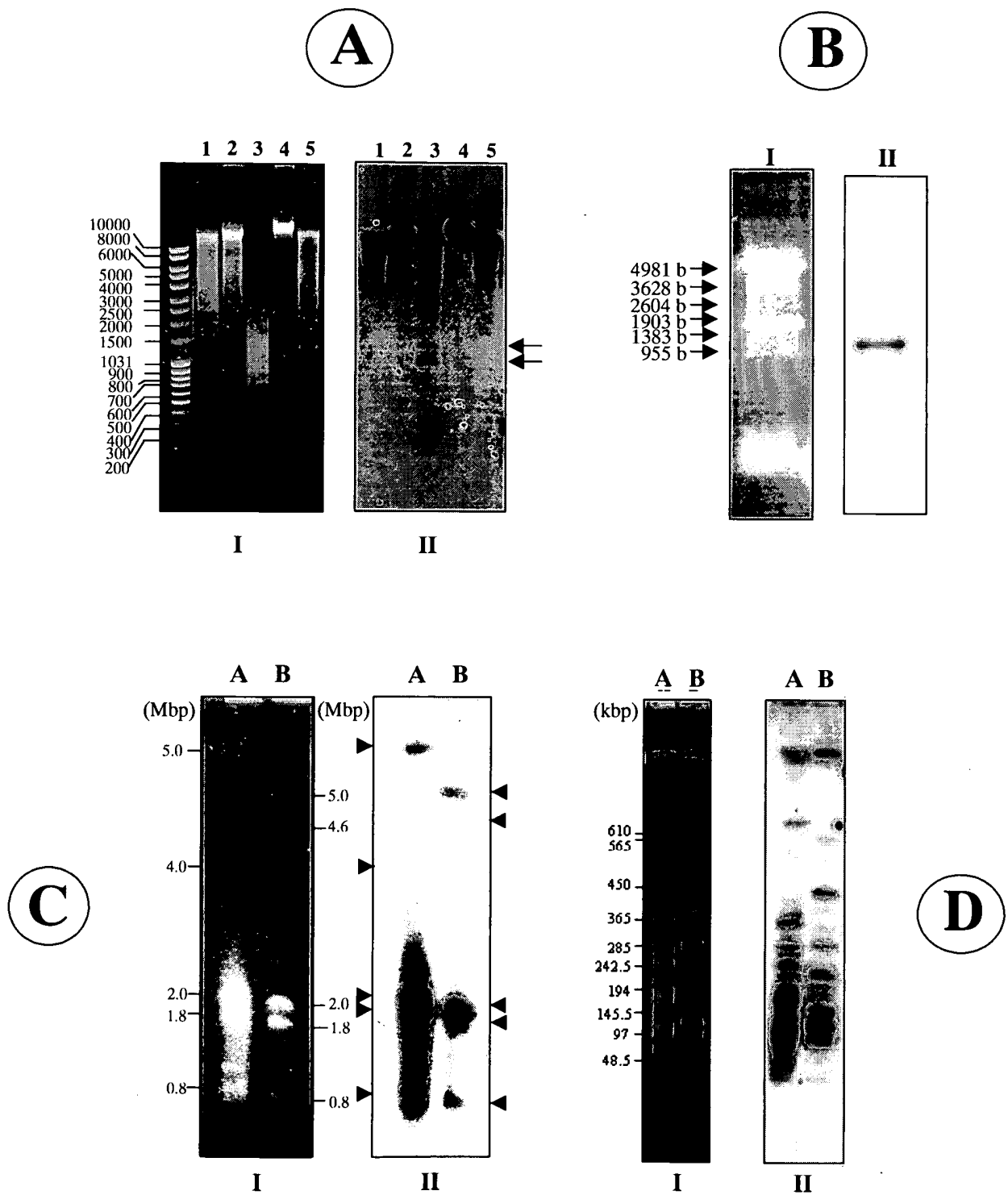
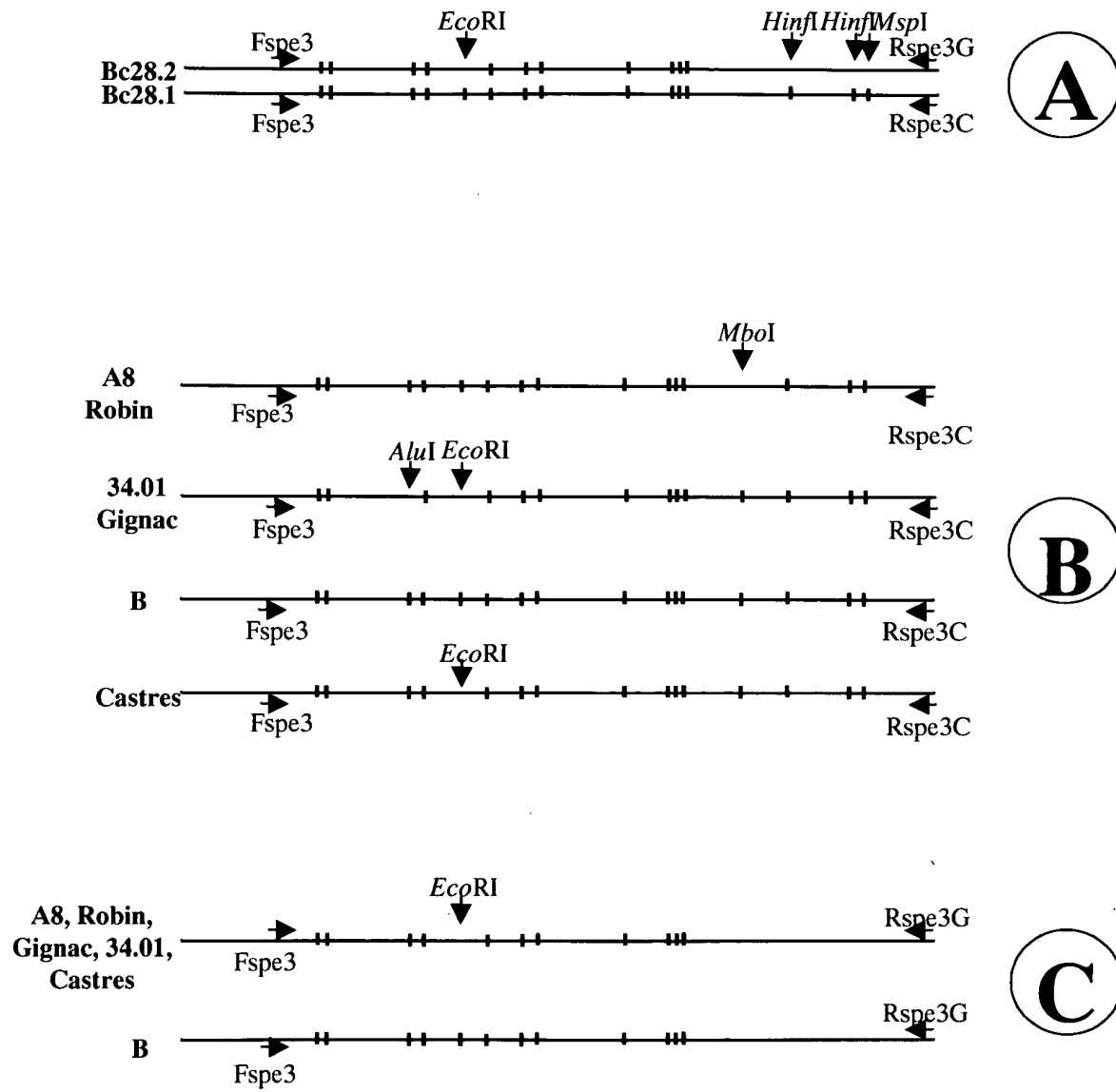
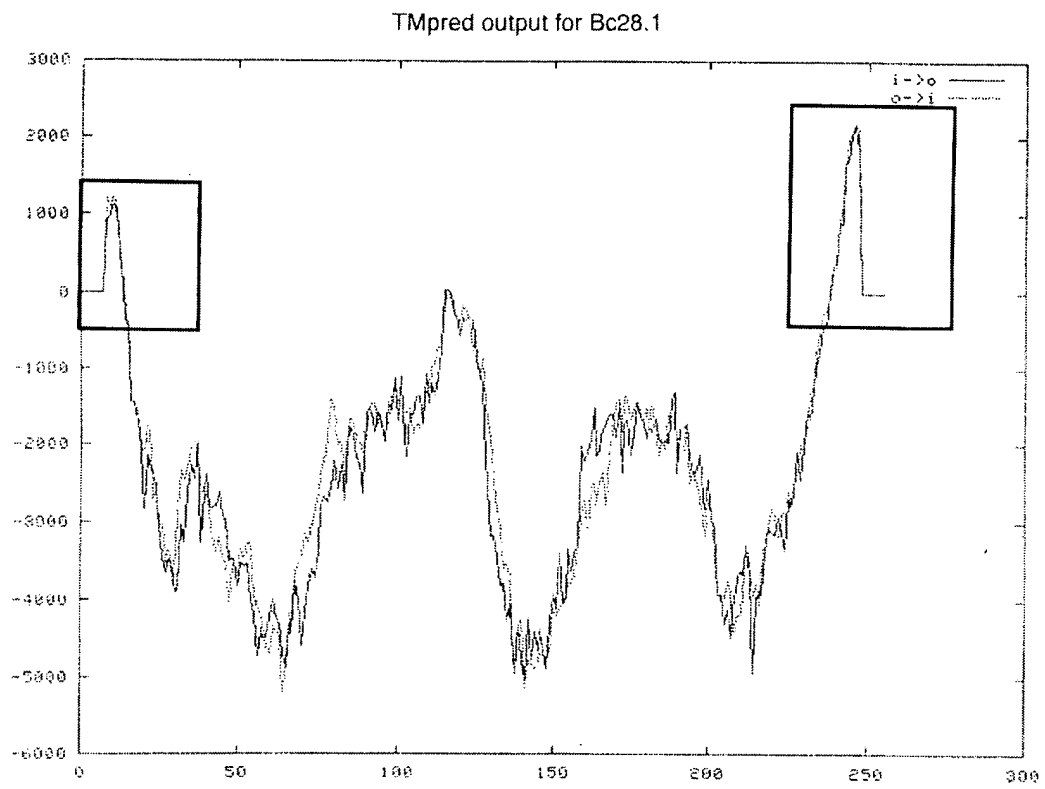


Figure 8



**Figure 9**

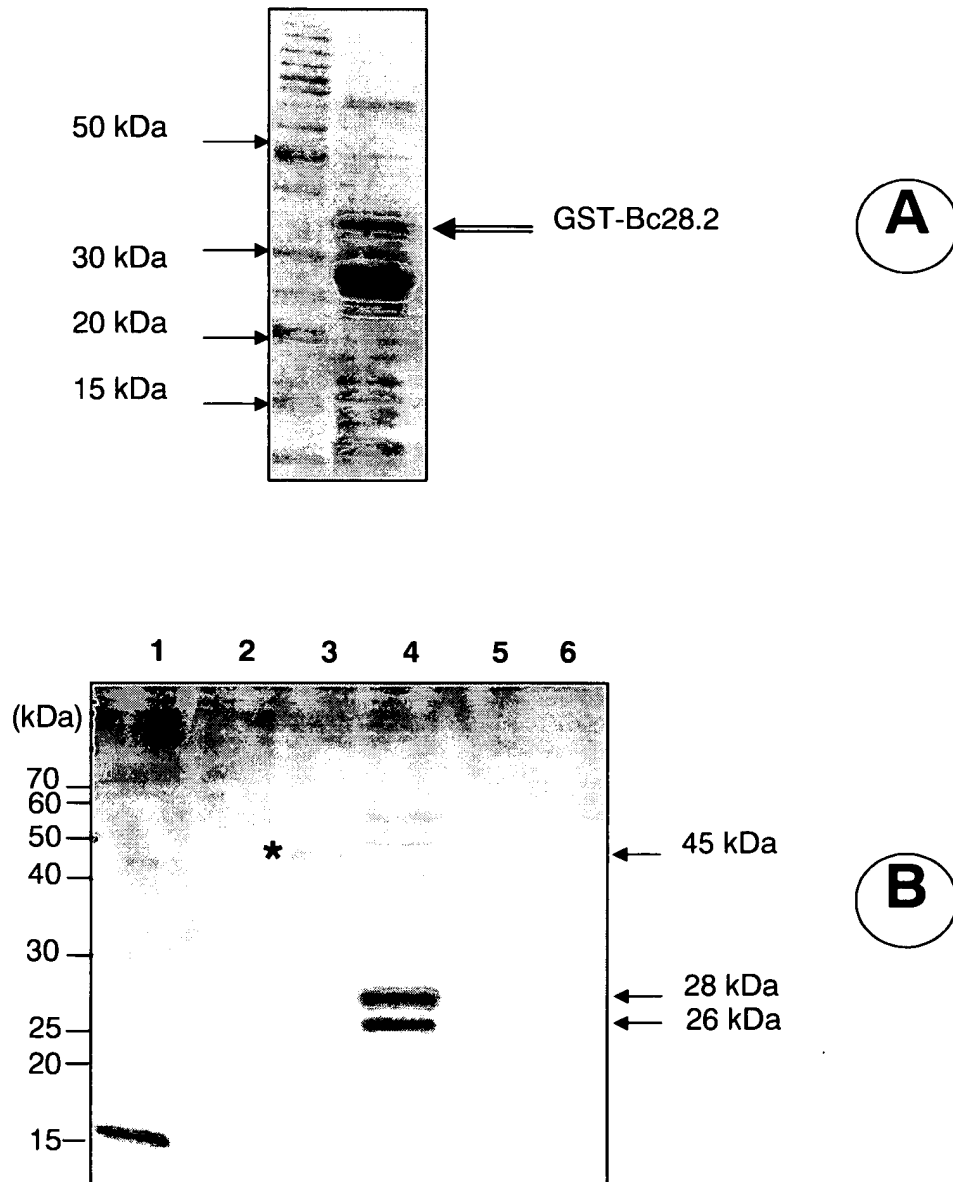
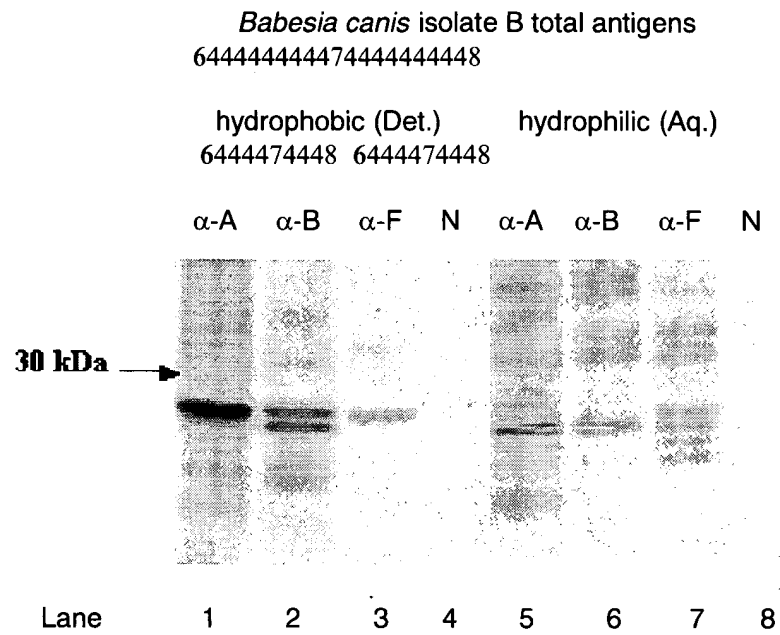
**Figure 10**

Figure 11



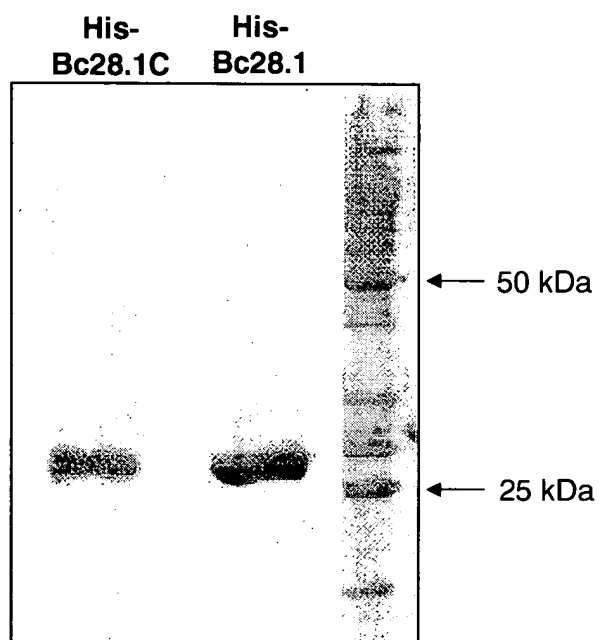
**Figure 12**

Figure 13

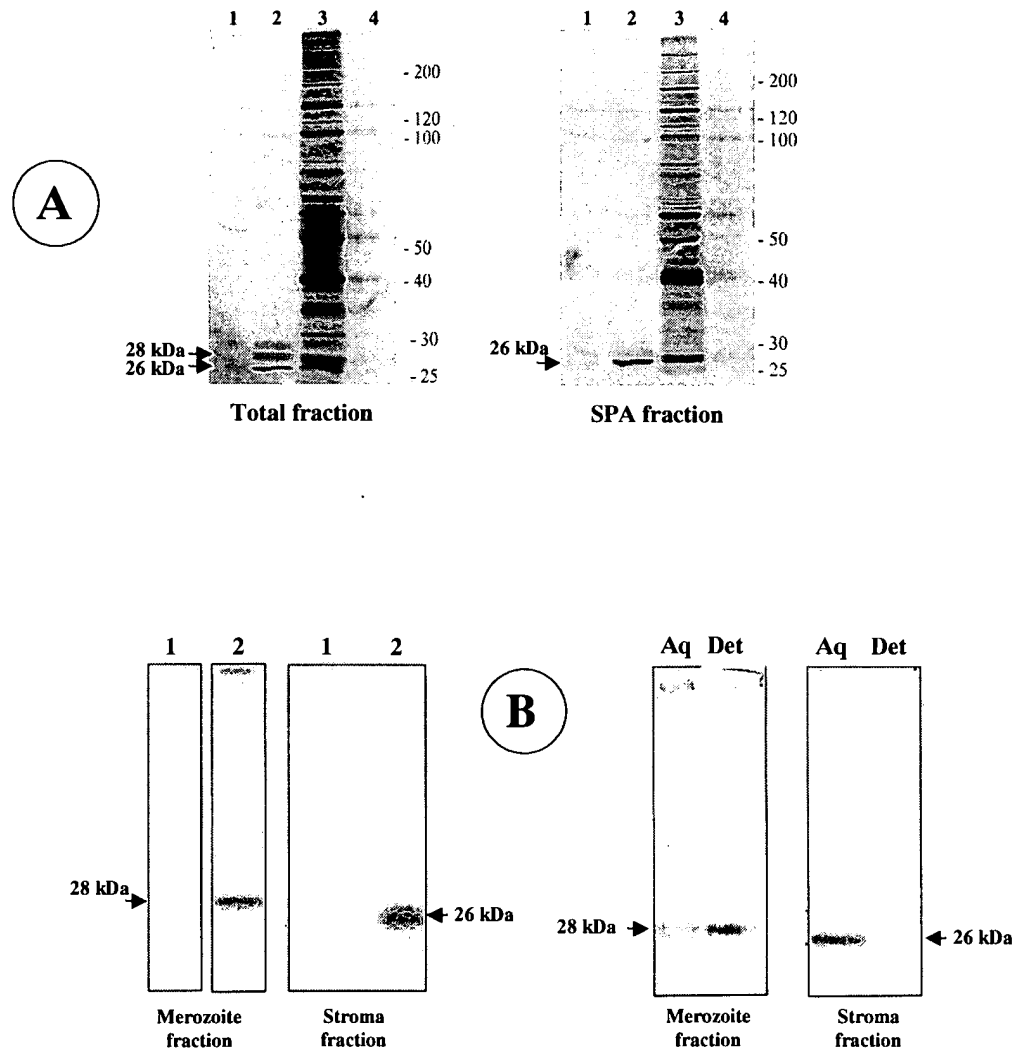




Figure 13 (continued)

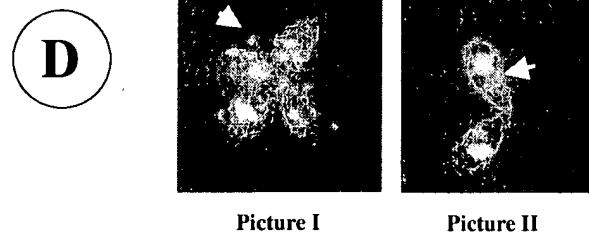
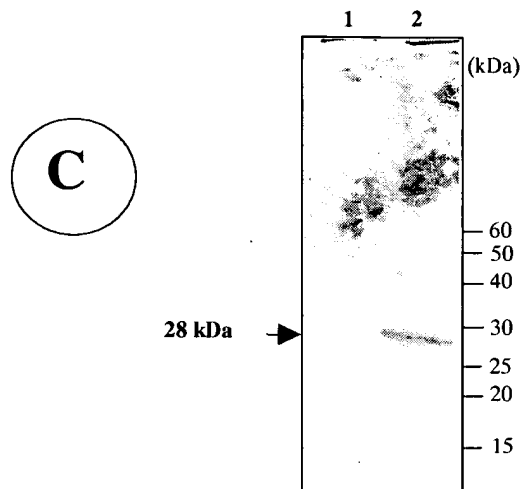
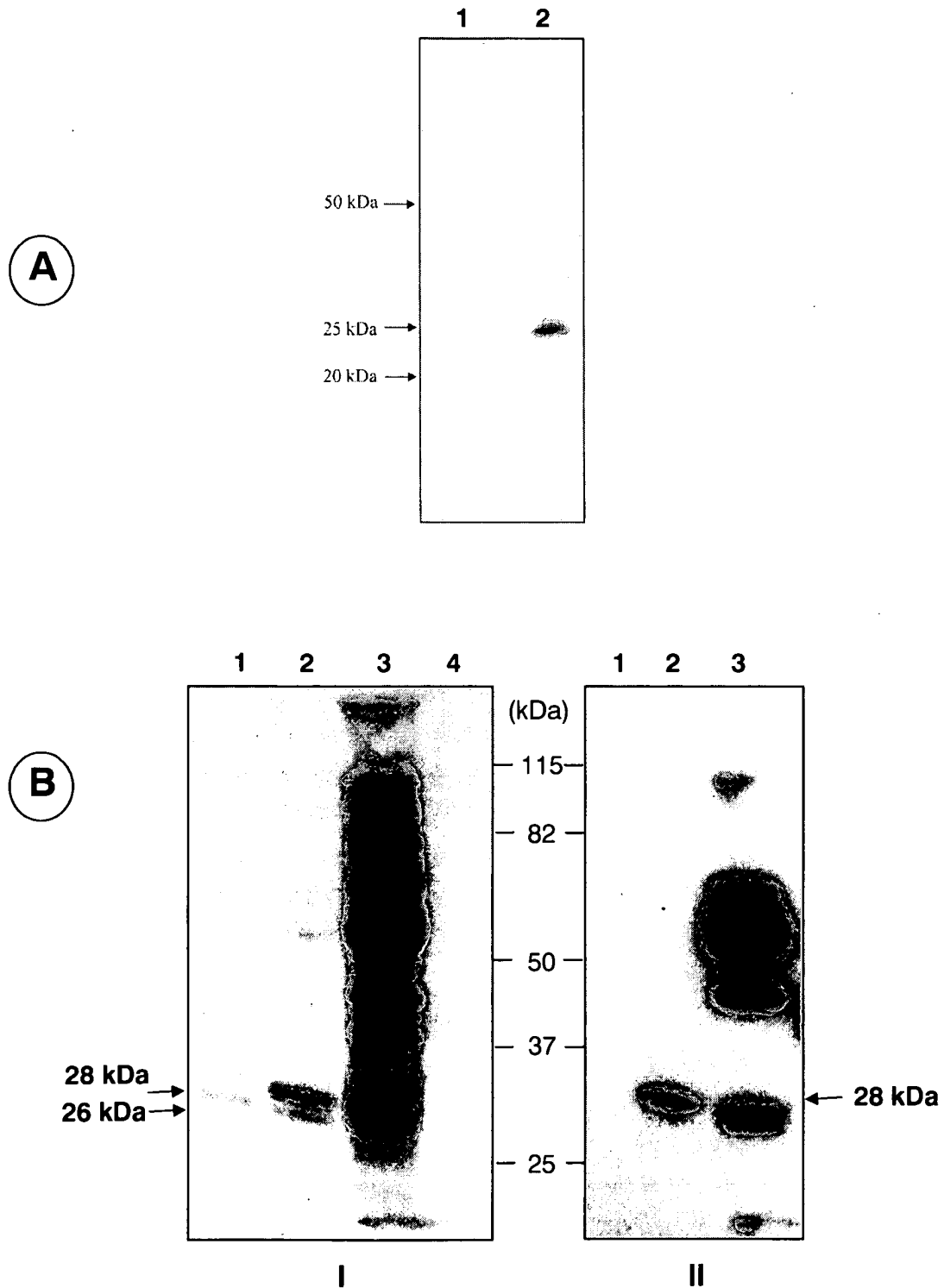


Figure 14



**Figure 15**